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the roles of strategic flexibility and organizational innovation**

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Attaining organizational agility through competitive intelligence: the roles of strategic flexibility and organizational innovation

Abstract:

Organizational agility can play an important role in an organization's emergent strategy for survival in an increasingly competitive market-place. This paper examines the impact of competitive intelligence on organizational agility through strategic flexibility and organizational innovation. We gathered data from 83 agency managers of insurance companies in Iran, using random simple sampling. These were analyzed using structural equation modeling (SEM) with partial least squares (PLS). Competitive intelligence was found to have an indirect influence on organizational agility through strategic flexibility, which was a mediating variable. Though competitive intelligence influenced organizational innovation organizational innovation did not have a significant effect on organizational agility. Our research contributes to the organizational agility literature by showing that organizational agility is influenced by competitive intelligence but organizational innovation is not as significant as has been assumed, instead strategic flexibility is a more important factor and suggests the human factor may be key to a successful strategy.

Keywords:

Competition, Organisational Innovation, Strategic planning, SEM, Resourced based view

Introduction

Strategy scholars have identified the need for flexibility as the factor that provides a firm with the ability to respond promptly and innovatively to changes in its market environment; often this kind of flexibility is referred to as *agility*, though this term has been used with a number of different precise definitions. In this study we use one devised by Goldman, Nagel and Preiss (1995, p.8) which defines it as “the ability to thrive in a competitive environment of continually and unpredictably changing market opportunities” and this involves a way of thinking which goes beyond just flexibility in the use of resources and development of capabilities. It is concerned with an ability to respond to opportunities that are context specific and often short-lived and these opportunities arise from the firm’s ability to immediately leverage existing organizational capabilities and a knowledge of competitors’ weaknesses (Battistella, De Toni, De Zan & Pessot, 2017).

Organizational agility is not a basic organizational capability that stands on its own but relies on a bundle of meta-capabilities (Goldman et al., 1995). If managers are to successfully build organizational agility, they must be able to identify and influence these factors. It would be difficult to arrive at a definitive list of all of the meta-capabilities that support organizational agility, but we propose that *competitive intelligence*, *strategic flexibility* and *organizational innovation* are among them. The aim of this study is to test the relationships between these meta-capabilities and organizational agility. To do this we gathered data from firms in the Iranian insurance industry which experiences intensely competitive conditions (Abtin & Pouramiri, 2016).

Knowledge of a firm’s market comes from competitive intelligence which is like a radar sweeping the environment, identifying new opportunities and threats quickly and accurately so enabling understanding of competitors’ strategies and learning from their successes and failures (Qafari Ashtiani & Akbari, 2013). Goldman et al. (1995) do not discuss this competence in detail though it is evident from how they describe their concept of agility that it is key to achieving it. Therefore, this study addresses the question of how competitive intelligence affects organizational agility. They mention the significance of strategic planning but assume that this is the responsibility of a strategy department in the organisation. We propose that a strategic mindset needs to be generally diffused throughout the organization so that advantage may be made from competitive intelligence, so we test the effect of strategic flexibility on the relationship.

Additionally, Goldman et al. (1995) continually stress the importance of innovative capability so that organisations can rapidly respond to, or create, market demand. Thus, we test the effect of organizational innovation on the relationship between competitive intelligence and organizational agility.

It might be expected that certain features of the insurance industry, such as service variability, structural and managerial weaknesses, underdeveloped technological application, underdeveloped social responsibility planning, and untapped demand in the insurance market would call for insurance firms to have strategic flexibility and develop their capability for organizational innovation (Kazemi Tame, 2007; Weber, Diaz & Schwegler, 2014). In Iran, the insurance industry is particularly dynamic and intensely competitive due to recent privatization and tariff liberalization (Karimi, Cheshomi & Kashani, 2010; Sedighikmal & Talebnia, 2014) so it provides suitable data for testing the concept of agility. It is only by applying new concepts, techniques and prerequisites for agility through innovation, flexibility and competitive intelligence, that a firm's potential can be realized. Therefore, this study investigates the role of competitive intelligence in enhancing organizational agility, so that companies can increase their performance (Hizaji, 2015; Baqeri & Rahmani, 2016; Abasi & Nazari, 2017).

From our results we argue that insurance companies need to focus on building the meta-capabilities of competitive intelligence and strategic flexibility and that the role of organizational innovation needs to be more fully investigated. We suggest that agility may be an attribute of components of the organization at the level of the team rather than at the organizational level. Thus, the contribution of this study is that it suggests agility does not come directly from organizational capabilities such as organizational innovation but potentially comes from the ability of employees, as individuals or in teams, to respond spontaneously to unexpected opportunities in the market revealed by competitive intelligence. It also suggests that organizational culture may be key to producing agility and that further research is required into this.

The rest of this paper is structured first by reviewing the relevant literature of the constructs used in this study and the relationships between them to justify the hypotheses, then there follows a methodology section that describes the selection of the sample and the construction of the survey instrument, next is a description of the results of the data analysis and this is followed by a

discussion of these results, finally there are some concluding remarks about the practical and theoretical contribution of the paper and some suggestions for future research.

Theory and Hypothesis Development

Organizational Agility

“Agile” has meant different things to people in different contexts, with the common factor being something akin to a culture of *adhocracy* (Cameron & Quinn, 2011). For example, the term has a different meaning in the context of software development (Lindsjörn, Sjøberg, Dingsøy, Bergersen, & Dybå, 2016) to its meaning in human resource management (Nijssen & Paauwe, 2012) and there is also a body of literature within the agility literature that deals with the relationship between agility and business models (Doz & Kosonen, 2010). This discussion takes place in the context of large organizations that require a strategy that has the flexibility to develop new capabilities in comparatively short time spans and to avoid reluctance to change that can come from periods of success and be responsive to disruption in the market (Teece, 2010; Battistella et al., 2017).

According to Goldman et al. (1995), agility is the ability of a business unit to grow and survive in a competitive environment in which changes are perpetual and unpredictable and require quick responses to volatile markets. The agile approach alters several aspects of doing business: it treats customers not as passive recipients of goods and services but as co-creators of value who have problems requiring solutions (Mejtoft, 2014; Rahmati & Hizaji, 2018); it values the human resource as something to be trusted and continuously developed (Dyer & Ericksen, 2006); it perceives competitors as, simultaneously, possible partners (Qrunflah & Tarafdar, 2013) and it develops the information resource (Sambamurthy, Bharadwaj & Grover, 2003).

However, this explanation does not completely capture the subtleties of the concept. Agility is a dynamic capability that pragmatically looks for, possibly fleeting, opportunities for profit in a fluid situation (Goldman et al., 1995). An organization can only be agile from moment to moment and it can only be agile insofar as it practices agility. Thus, it is not just about using resources effectively or developing new competencies, or even about being flexible, but it is about being able to respond to new situations in new, pragmatic and original ways, every time. Lewis, Andriopoulos and Smith (2014) advocate a paradoxical approach to managing agility since they see it as requiring contradictory management aims such as maintaining as much stability as

possible while having enough flexibility to be responsive to a rapidly changing situation or establishing effective business processes while, at the same time, constantly keeping an open mind for new approaches.

The concept of agility was born from a business environment undergoing rapid change because of the development of increasingly sophisticated information systems (Conboy, 2009). Recently, it is the ability to collect and store huge quantities of information on existing and potential customers (big data) and the ability to interrogate that data in increasingly sophisticated ways (data analytics) that makes agility such an important current concept (Côte-Real, Oliveira & Ruivo, 2017). Lu and Ramamurthy (2011) found that there was no automatic relationship between expenditure on IT systems and agility but there was a positive relationship between developing IT competence and agility illustrating that agility is not about resources but how they are used. So, there is a strong link in the agile approach between the technological resources and the human resource. For an agile organization the workforce must be *scalable*, meaning that highly skilled people must be employed who can be trusted to apply themselves to problems as they arise and make their own decisions without recourse to a bureaucratic hierarchy (Dyer & Ericksen, 2005).

Competitive Intelligence

Over the past two decades, competitive intelligence has evolved from a small scientific field to a globally recognized scientific discipline. Due to the globalization of markets and increasing competition throughout the world, this perspective seeks to integrate and develop existing theories so as to provide a comprehensive view to achieve competitive advantage. Competitive intelligence requires a systematic process to gather up-to-date and relevant data on competitors (Murphy, 2016).

The purpose of competitive intelligence is to provide information that can be used to identify and focus on strengths and weaknesses in competitors' positions (Luu, 2014). The effect of it is that it enables managers to make quick, evidence-based, rational decisions rather than relying on experience and instinct (Stefanikova, Rypakova & Moravcikova, 2015). It is the product of the increasingly intensive use of technology such as software that gathers data from customer feedback web sites (Shaitura, Ordov, Lesnichaya, Romanova & Khachaturova, 2018) and business analytics (Ashrafia, Ravasanb, Trkman & Afshari, 2019). Increased competitive intelligence leads organizations to analyze their environment more accurately, store the results and provide decision makers with useable information as necessary.

Taloui and Rabetino (2017) point out that there have been two distinct approaches to competitive intelligence among scholars: those who see it as a product which brings together large amounts of information to reveal competitors' weaknesses and those who see it as a process which collects, analyses and facilitates data, information and knowledge exchange within the organization and, in turn, improves the effectiveness of strategic decision making and thinking (Ghafari, Nazari, Afzali & Omranifar, 2013). In this study, we favor the dynamic approach that sees it as a process. Thus, competitive intelligence exemplifies the key principle of market orientation, namely active customer and competitor focus and, therefore, it is also an integral component of strategic marketing in firms (Mariadoss, Milewicz, Lee, & Sahaym, 2014).

Strategic Flexibility

Businesses must be flexible enough to be able to manage both unpredictable threats and available opportunities in the future in an uncertain and unstable environment (Kashani Nik, 2012). The agile model requires more than simply a tendency towards flexibility but must combine flexibility with aspects of stability. Therefore, providing the right kind of flexibility to fit a chaotic business environment is one of the challenges facing modern managers (Hajipour & Moradi, 2010; Lewis et al., 2014).

There have been a number of attempts to categorize flexibility (Toni & Tonchia, 2005; Stevenson & Spring, 2007) for the purposes of examining its role in different industries, though, there has been a recurring theme of operational versus strategic in these categorizations. Pereira, Sellitto and Borchardt (2017) employ Stevenson and Spring's (2007) categorization of types of flexibility (operational, tactical, strategic and supply chain flexibility) to investigate flexibility in the highly competitive fashion manufacturing industry. Pereira et al. (2017) found a positive correlation between operational and strategic flexibility and suggest that operational flexibility enables strategic flexibility by offering managers more options.

This research is focused on the level of strategy and successful use of strategic flexibility can result in better performance and make imitation difficult for competitors (Toni & Tonchia, 2005). As a result, achieving it becomes increasingly important for decision makers (Kashani Nik, 2012). In fact, there has been a growing recognition of the strategic importance of strategic flexibility for companies competing in the modern changing business environment so that some regard developing strategic flexibility to be one of the hardest yet most important functions of managers in dynamic industries (Santos-Vijande, López -Sánchez & Trespalacios, 2012; Shimizu & Hitt,

2004; Toni & Tonchia, 2005). Of course, the relative importance of strategic flexibility depends on the competitive intensity in that specific industry. So, strategic flexibility affects performance more significantly where the competition is more intense (CB. Li & JJ. Li, 2008).

Recently, management scholars have shown that strategic flexibility has positive impacts on the successful implementation of both cost leadership and differentiation strategies and results in an increase in the level of business performance (Santos-Vijande et al., 2012; Nadkarni & Nareyanan, 2007). Strategic flexibility is found in companies with a distinct competitive advantage, because it provides a diversity of capabilities that may lead to new options. Also, distinct forms of strategic flexibility in dynamic and variable environments means imitation is difficult for competitors (Kashani Nik, 2012; Brozovic, 2018).

It seems likely that strategic flexibility is related to competitive intelligence since with an increase in competitive intelligence the ability of companies to better respond to opportunities and threats increases. It was also found that all types of competitive intelligence are interrelated, and strategic flexibility is mostly affected by market intelligence. Thus, competitive intelligence is recognized as one of the factors influential on strategic flexibility; hence, we propose the following hypothesis:

Hypothesis 1: Competitive intelligence has a positive impact on strategic flexibility.

Scholars have argued for some time before the term “agile” became common currency that in an environment of continual rapid change that flexibility is a source of competitive advantage (Hitt, Keats & DeMarie, 1998). Bernardes and Hanna (2009) argue that flexibility and agility are overlapping concepts but with flexibility being more focused on the operational level and agility more on an abstract, or strategic, level. Therefore, we propose that strategic flexibility is a meta-competence of organizational agility.

Hypothesis 2: Strategic flexibility has a positive impact on organizational agility.

Organizational Innovation

Organizational innovation is a process by which knowledge is acquired, shared and integrated with the aim of creating new knowledge about products and services (du Plessis, 2007). Organizational innovation means development or adoption of new ideas or actions in business practices within organizations (Wong & Chin, 2007). In 2005, the Organization for Economic Cooperation and Development (OECD) introduced organizational innovation as a new

organizational measure in business practice, workplace organization and external relations that is concerned with strategic management decisions in a company (Camisón & Villar- López, 2014). Thus, organizational innovation leads to an organizational tendency to develop new products and services and improve them. Its success is measured by the presentation of those products and services to the market. Hung, Lien, Yang, Wu and Kuo (2011) show that organizational innovation improves competitive advantage and profitability, reduces costs, improves employees' productivity and asset turnover. Sellitto, Camfield and Buzuku (2020) extend the investigation of innovation by examining specifically green aspects of it finding that green innovation supports competitive advantage.

Through competitive intelligence, companies assess actions and capabilities of their potential and existing competitors so that they can maintain and develop their competitive advantage (Rezaei, M. Zare, Akbarzadeh & F. Zare, 2014). By embracing more innovation, organizations strive to achieve higher levels of performance and respond to environmental changes as well as expand new capabilities (Ardakani, Konjkav Monfared, Hakkaki & Rezayi Dolat Abadi, 2010). In a study of the staff of a major Iranian bank, Shahr Bank, Rezaei et al. (2014) discovered that there is a positive association between dimensions of competitive intelligence, organizational innovation and learning. So, competitive intelligence has been recognized as one of the factors that is influential on organizational innovation; hence, we propose the following hypothesis:

Hypothesis 3: Competitive intelligence has a positive impact on organizational innovation.

Kamali and Kamali (2012) conducted a study of Iranian insurance companies. Their findings indicate a significant relationship between organizational agility and innovation. Also, agility and innovation increase the ability of organizations to make effective changes. Thus, organizational innovation is recognized as one of the factors influential on organizational agility (Teece, Peteraf & Leih, 2016; Lin, 2004); hence, we propose the following hypothesis:

Hypothesis 4: Organizational innovation has a positive impact on organizational agility.

According to our view of agility and what has been mentioned in the preceding hypotheses about the direct relationships between constructs in this study and organizational agility, as well as considering competitive intelligence as an essential for a firm to make agile decisions on strategy and innovation, we propose the following hypotheses:

Hypothesis 5a: Competitive intelligence has a significant positive effect on organizational agility through strategic flexibility as mediator.

Hypothesis 5b: Competitive intelligence has a significant positive effect on organizational agility through organizational innovation as mediator.

<<Insert figure 1: Conceptual model >>

Empirical Investigation

Method and sample

A self-administered survey questionnaire was designed and employed to collect data on organizational agility, competitive intelligence, organizational innovation, and strategic flexibility from 83 Iran insurance firms' agents in Qom province in Iran. The simple random sampling technique was employed as each insurance firm has an equal probability of being chosen. According to the central Insurance report published by Central Insurance of Iran (CII), 106 active agents operate in the insurance industry in Qom province.

Measures

The questionnaire consists of 64 items (5-point Likert scale) in 5 sections. The first section of the questionnaire relates to demographics including age, gender, education and work experience of managers. The second section relates to the components of competitive intelligence adopted from Hülsmann, Grapp and Li's (2006) model including aspects of market intelligence (4 items), competitor intelligence (6 items), technological intelligence (4 items) and strategic social intelligence (5 items). The third section relates to measuring the mediator variable based on questions developed by Rouach and Santi (2001) on strategic options (10 items) and strategic change (10 items). The fourth section relates to the components of the second mediator variable, organizational innovation where questionnaire items were provided by the Organization for Economic Co-operation and Development (OECD, 2005) with dimensions of business practice (3 items), workplace organization (3 items) and external relationships (3 items). The final section relates to organizational agility based on Goldman et al.'s (1995) instrument with dimensions of responsiveness and delivering value to customer (3 items), readiness to face changes (5 items),

valuing skills and human resource knowledge (4 items) and establish virtual contribution (4 items).

The validity of the questionnaire was verified by convergent validity. The level of convergent validity was obtained by Average Variance Extracted (AVE) which, according to Khayatan and Mobaraki (2014), was in the acceptable range. Divergent validity (discriminant) was assessed through comparing the square roots of AVE with correlations between latent variables. For any reflective constructs, the square root of AVE must be greater than the correlation between that construct and other constructs in the model (Fornell & Larcker, 1981). Also, in order to determine reliability, three measures were used including Cronbach's alpha, composite reliability coefficient and internal consistency (factor loading) (Hair, Hult, Ringle & Sarstedt, 2017). The acceptable level for Cronbach's alpha, according to Hair, Black & Babin (2010), is a value greater than 0.6 and for composite reliability a value greater than 0.7. The factor loading level of items is used to assess internal consistency and it is acceptable at a level greater than 0.4 (Abarashi & Hoseini, 2012). In addition, items with factor loadings smaller than 0.4 or t-statistic between -1.96 to 1.96 were excluded. Tables 2 and 3 show the validity and reliability of the research instrument after modifying weak items. Validity (convergent and divergent) and reliability (factor loading, composite reliability and Cronbach's alpha) are indicators that the research instrument was appropriate.

<<Insert table 1: Demographic Characteristics>>

<<Insert table 3: Factor loadings, descriptive statistics and reliabilities >>

<<Insert table 4: Correlation matrix and divergent validity >>

Results

We used PLS-SEM to test the proposed theoretical model (Ringle, Wende & Becker, 2015; Hair et al., 2017). The R² index was used to test SEM fit and goodness of fit. R² is a measure which is used in SEM to indicate the proportion of the variance in the dependent variable that is predictable from the independent variable. This value is calculated for dependent constructs or variables and is zero for independent variables. R² values of 0.19, 0.33 and 0.67 are substantial, moderate and weak, respectively. After fitting the structural model, goodness of fit is assessed. This measure is relevant to the general part of the Structural Equation Modeling, thus, after measurement and

structural model fit, the researcher can control the whole goodness of fit (GOF). Generally, communality measures the percentage of variance in a given variable explained by all the factors jointly and may be interpreted as the reliability of the indicator. GOF values of 0.01, 0.25 and 0.36 are weak, moderate and substantial, respectively (Sadri & Ansari, 2015). Table 3 shows fitness values of the model.

<<Insert table 5: Fitting Model Indexes >>

As the above table shows, the GOF value for the research model is 0.72 which indicates a well-fitting model.

After fitting the measurement, structural and general model, the research hypotheses were tested. This was done through two parts: t-coefficients and path (β) coefficients. If the t-statistic value is larger than 1.96, there is a significant and positive effect and if its value is smaller than -1.96, there is significant negative effect. The path coefficient indicates the direct effect of one variable on another. In this case, the path coefficient between variables is larger than 0.6, which means that the predictive effect of the latent variable is stronger than that of the dependent variable. If this value is between 0.3 and 0.6, its level is moderate and if this value is smaller than 0.3, its level is weak. In Figures 2 and 3 the path coefficients, t values and in Table 7 the hypothesis test results are provided.

<<Insert figure 2: Path coefficients >>

<<Insert figure 3: t values >>

<<Insert table 7: Hypothesis test results >>

Discussion and Implications

The necessity for organisational agility for survival has become more urgent in a market environment that has become increasingly and intensely competitive because of the developing sophistication and presence of digital technologies (Haraf, Wanasika, Tate & Talbot, 2015). Therefore, we set out to investigate some of the antecedents of agility for the benefit of HR

managers, management experts, academics and practitioners in the fields of organizational behaviour and business management. Specifically, the aim of this study was to find if competitive intelligence, strategic flexibility and organizational innovation are meta-competencies that support organizational agility and, if so, what the relationships are between them. We found that competitive intelligence and strategic flexibility do support organizational agility whereas organizational innovation does not. This is a significant finding because it gives an indication as to what capabilities it is essential to develop to make an organization agile.

Iranian insurance companies have adapted in recent years to the social and cultural changes in Iran including the nature of privatization of Iranian organizations (Harris, 2013), increasing life expectancy, increasing the number of employed women, reducing marriage rates, increasing divorce rates, positive attitudes toward insurance and future provision, as well as increasing financial pressures, such as rising Diyat rates (Tabnak, 2019). (Diyat is a type of privately agreed accident compensation). They have responded to these customer needs with a variety of new services and options and the speed of accountability and adaptation of the programs has been rapid, so this was a good context in which to test our hypotheses.

Our analysis shows the highest values of correlation were found between strategic flexibility and organizational agility and between competitive intelligence and strategic flexibility. Based on the indirect effect of competitive intelligence on organizational agility through strategic flexibility as a mediator variable, it may be concluded that competitive intelligence and strategic flexibility have effective key roles in organizational agility. This result is consistent with Salavati, Khosravi and Amani (2013) who found a positive and significant correlation between organizational agility and competitive intelligence.

Our results also show that, companies and organizations can achieve strategic flexibility through competitive intelligence, which is consistent with Kashani Nik (2013) who concluded that organizations which are more sensitive and aware of their environment are better able to monitor available opportunities, react appropriately and perform more intelligently than other organizations, achieve competitive advantage and have better survival assurance over time. Strategic flexibility is the capability of companies to successfully respond and adapt to environmental changes (Brozovic, 2018). Successful adaptation through strategic flexibility could result in better performance and make imitation difficult for competitors (Hajipour & Moradi,

2010). However, the relative importance of strategic flexibility depends on the intensity of competition (Nadkarni & Nayeryanan, 2007). When competitive intensity is high, companies are required to identify and implement necessary changes quickly, which affects performance (Li et al., 2008).

Our results show a positive effect of strategic flexibility on organizational agility. With the growth of sales and industry demand, new rivals enter this field and, by changing customer needs and demands, changes in current competitor strategies (such as price changes, new services, advertising, etc.) are emerging. The results suggest that Iranian insurance firms have flexible strategies to deal with changes in the market environment and the performance of competitors, also their employees are always seeking knowledge and learning new skills and continuous improvement that has led to updating systems and provision of services quickly and effectively.

Surprisingly, though our results show an influence of competitive intelligence on organizational innovation this does not feed through into an influence on organizational agility. Thus, our findings confirm those of Rezaei et al. (2014) who concluded that there is positive correlation between competitive intelligence, innovation and organizational learning. However, despite studies supporting a significant relationship between organizational innovation and agility, such as Kamali and Kamali (2012) and Ravichandran and Troy (2007), we did not find it in the context of our sample Iranian insurance companies. The reasons for this lack of influence of organizational innovation on organizational agility is, evidently, contextual. It may be, for example, that these firms imitate innovations, that they outsource processes where innovations have been introduced, or that there are flaws in the competitive situation (Harris, 2013).

Our findings suggest that strategic flexibility at the organizational level can be implemented at the level of individual employees, who have an agile mindset, working together in teams (Parker, Holesgrove & Pathak, 2015), as described by Katzenbach and Smith (2005). In this view, strategy alone can only produce conditions favorable to agility, not agility itself. This is close to the meaning of agility as it is defined by Goldman et al. (1995), which is one of the founding works of the subject and has a wide range of application, including guidance for the strategy of the organization as a whole.

Studies have shown that having the right HR strategy is essential for bringing about organisational agility (Saha, Gregar, & Sáha, 2017; Saha, Gregar, & Sáha, 2017) and our research contributes to an understanding of the relationship between the two. We suggest that what our results

demonstrate is that individually met competencies such as organizational innovation do not influence organizational agility unless the firm has the right people and a culture that makes employees strategically aware and able to make strategic decisions right down to the lowest levels. In this way strategic flexibility is a fundamental meta-capability of organizational agility whereas organizational innovation is not.

Recommendations and Solution

The most important practical implication of this study is that it shows that managers need to understand that organizational agility does not come from the cultivation of competencies such as innovation but from an intrinsically strategic adhocracy culture in the organization. To achieve this a *scalable* workforce must be created (Dyer & Ericksen, 2006; Nijssen & Paawe, 2012) where a scalable workforce is one which is sufficiently adaptable to the demands of changing business needs.

First, agility needs to be ingrained in the culture of the firm. In the organizational culture model of the Competing Values Framework (Cameron & Quinn 2011) there are four types of organizational culture: clan which has an internal focus and values collaboration, adhocracy which has an external focus and values innovation, market which has an external focus and values competitiveness and hierarchy which has an internal focus and values order and stability. All organizations have a mixture of these culture types which need to be in a balance that is appropriate to that firm at that time (Hartnell, Ou & Kinicki, 2011). Felipe and Leal-Rodríguez (2017) found a positive correlation between three of the culture types and agility, but no correlation was found between market culture and agility. These results are consistent with our findings and are mutually illuminating. When dealing with customers the agile firm must have a flexible approach driven by competitive intelligence rather than a more stable approach driven by competencies developed over a period of time that may or may not mesh with customer requirements at that instance, such as organizational innovation. On the other hand, in its internal management the firm needs strong teams, consistent with clan culture, and a stable basis for its longer-term vision and strategy, consistent with hierarchical culture.

Second, it is recommended that business intelligence tools and techniques (López-Robles, Otegi-Olaso, Gomez & Cobo, 2019) are used by Iranian insurance companies to enhance competitive intelligence and gain intelligence opportunities as well as to increase the analytical ability of managers and increase their strategic awareness. Insurance companies can improve their

performance and achieve competitive advantage through benchmarking with major insurance companies in the world which are the leading users of technology in this industry (Fosgren & Sabherwal, 2015).

Third, it is important to have a strong customer orientation since knowledge about the market is not enough; it is being able to respond to customers that matters (Womack & Jones, 2015). Customers should not be perceived as being people who buy a product or service but as people who are looking for a solution to a problem and the firm is there to help them.

Final Remarks

By setting this study outside the usual Western or Asian contexts in an industry that has had to make unusual responses to unusual pressures, this study has been able to show that the relationship between its supposed meta-capabilities and organizational agility are not as straightforward as has generally been thought. Our study suggests that agility needs to be reconsidered as a phenomenon that is difficult to produce in the context of large organizational units since it is a competence at the level of the individual employee and of small teams. Thus, this study shows that a culture of strategic thinking throughout the firm is much more fundamental to agility than is innovation which, after all, may not be useful and, therefore, not strategic.

Our findings suggest certain avenues for future research. First, we have shown that there is a need to identify a conceptual framework of the essential meta-capabilities of agility. We suggest that these may be to do with the human resource. Second, there is a need to understand the ways that other meta-capabilities, such as innovation, are affected by contextual factors. Agility is a significantly useful concept for understanding the contemporary business environment, more detailed knowledge about its components and the factors that affect it is highly desirable. Finally, there is a need to understand the organizational cultural conditions that are favorable to agility which managers should strive to produce.

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Figure 1. Conceptual Model

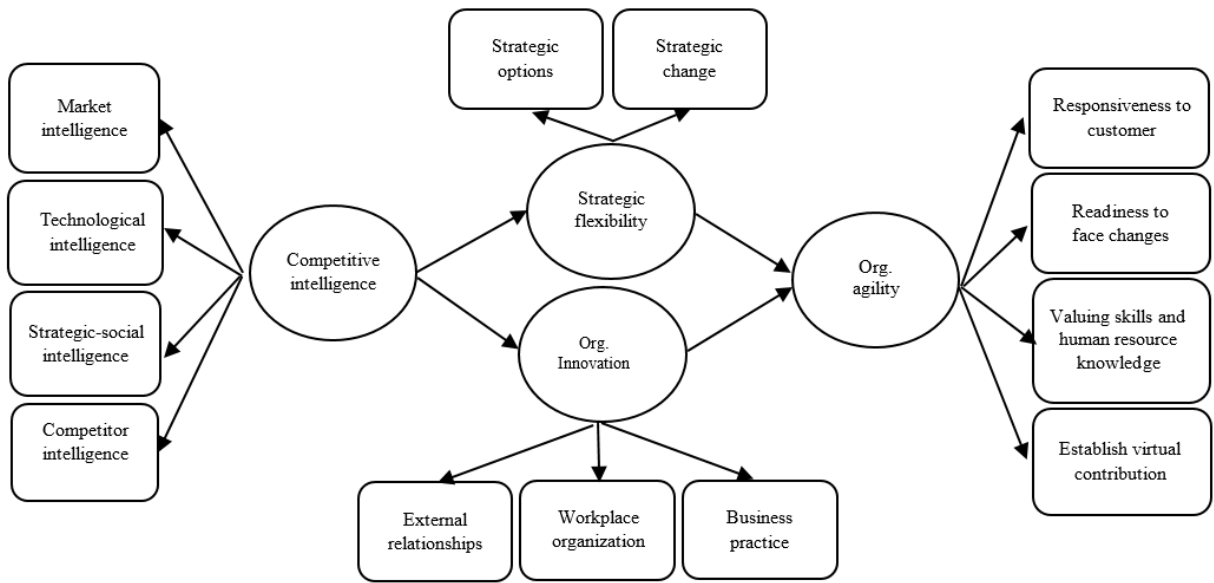


Table 1. Demographic Characteristics

Factor	Category	Frequency
Age	20-30	3
	30-40	20
	40-50	48
	50-60	12
Gender	male	70
	female	13
Education	Diploma holders	30
	BA	40
	MA	11
	Ph.D.	2
Managerial Experience	1-5	6
	6-10	30
	11-15	40
	More than 16	7

Table 2. IQuestionnaire items and sources

Competitive Intelligence (Hulsman et al., 2006)	
How successful has your company been in any of the following?	
Market Intelligence	In identifying of demographic characteristics (age, income, education, interests, values, ...) of customers
	In identifying the factors affecting the purchase of customers (advertising, friend's advice, the influence of reference groups, previous purchasing experience, etc.)
	In offering new services to the market
	In the use of information gathered from customers in corporate advertising scheduling
Technological Intelligence	The use of effective technology for service over the past years
	The use of appropriate technology to document the various actors of the market and customers
	Considering technological trends in planning for different services
	In awareness of the technological changes and new technologies, for use in advertising
Strategic-Social Intelligence	In the study of the status of cultural trends and people's attitudes towards insurance types and analysis of their impact on companies
	In the study of the status of social trends and various events and its impact on the company
	In the knowledge of the laws and regulations governing industry by the government, parliament and ...
	In monitoring the political situation and its trends and analyzing its impact on companies
	In analyzing the economic situation (diy rate, tax rate, inflation, exchange rate ...) and its impact on the company
Competitor Intelligence	Attention to competitors' advertising methods and activities
	Attention to the diversity of service competitors
	Attention to new competitors' services

	Attention to brand strength and rivals' credibility
	Attention to the geographical scope of competitors (local, regional, national)
	Attention to the nature of competitors (private or public)
Organizational Innovation (OECD, 2005)	
Organizational Innovations in Business Practices	Use of databases of best practices, lessons and other knowledge
	Implementation of practices for employee development and better worker retention
	Use of quality management systems
Innovations in Workplace Organization	Decentralization in decision-making
	Use of inter-functional working groups
	Flexible job responsibilities
New Organizational Methods in Workplace Organization	Collaboration with customers
	Use of methods for integration with suppliers
	Outsourcing of business activities
Strategic Flexibility (Rouach & Santi, 2001)	
Strategic Options: having a variety of programs and options to deal with	Changing customer requests and interests
	Enter new rivals
	Change the strategies of competitors (such as changing prices, offering new services, how to advertise, etc.)
	Change in the status of various corporate sources
	Entry of new and alternative services

	The arrival of new technology
	Changes in economic variables (such as inflation rate, exchange rate, tax rate, average level of earnings, interest rate, etc.)
	Changes in socio-cultural variables (such as increasing the number of employed women, reducing marriage rates, decreasing the average age of the community, etc.)
	Changes in political variables and government programs (privatization, sanctions, etc.)
	Changes in the rules governing the industry
Strategic Change: responsiveness, speed and adapting programs	Changing customer requests and interests
	Enter new rivals
	Change the strategies of competitors (such as changing prices, offering new services, how to advertise, etc.)
	Change in the status of various corporate sources
	Entry of new and alternative services
	The arrival of new technology
	Changes in economic variables (such as inflation rate, exchange rate, tax rate, average level of earnings, interest rate, etc.)
	Changes in socio-cultural variables (such as increasing the number of employed women, reducing marriage rates, decreasing the average age of the community, etc.)
	Changes in political variables and government programs (privatization, sanctions, etc.)
	Changes in the rules governing the industry
Organizational Agility (Goldman et al., 1995)	
Responsiveness to Customer	We have the flexibility to provide services in the company.
	We are ready to respond to customers.

	When we work together, we can better respond to the demands and requirements of our customers.
Readiness to Face Changes	The company has flexible strategies to deal with environmental changes.
	The company's goals are consistent with environmental changes and customer feedback.
	Let's look at the changes in new and innovative ideas with a positive and promising vision.
	Employees quickly adapt their knowledge and insights to a new competitive environment.
	Changing the systems and how to provide services in the company can be done quickly and easily.
Valuing Skills and Human Resource Knowledge	The company's management always tries to inform staff and customers.
	The technologies available in the company will increase the knowledge and skills of the employees.
	The speed of learning new skills and duties of the staff is good.
	Employees should always seek training and learning new skills and continuous and continuous improvement.
Establish Virtual Contribution	Providing services virtually has increased employee productivity.
	Employees, technologies, and units of the company are coordinating.
	Workers at different levels participate in tasks and work processes.
	The different departments and units of the company are in harmony and integrity.

Table 3. Factor loadings, descriptive statistics and reliabilities.

Constructs	Items	Factor loading	Mean	Std Dev	
Market Intelligence	MI1	0.77	3.65	0.78	Cronbach's alpha @ 0.71 Construct reliability 0.81 AVE 0.59 Item deleted (MI3) low reliability
	MI2	0.74	3.47	0.72	
	MI3	0.21	3.32	0.85	
	MI4	0.79	3.62	0.67	
Technological Intelligence	TI1	0.77	3.81	0.61	Cronbach's alpha @ 0.70 Construct reliability 0.81 AVE 0.52
	TI2	0.73	3.60	0.69	
	TI3	0.72	3.58	0.62	
	TI4	0.66	3.13	0.81	
Strategic – social Intelligence	SsI1	0.74	3.20	0.95	Cronbach's alpha @ 0.70 Construct reliability 0.82 AVE 0.52 Item deleted (SsI3) low reliability
	SsI2	0.72	3.21	0.83	
	SsI3	0.25	3.20	0.89	
	SsI4	0.70	3.60	0.77	
	SsI5	0.74	3.19	1.01	
Competitor Intelligence	CI1	0.75	3.88	0.75	Cronbach's alpha @ 0.80 Construct reliability 0.85 AVE 0.50
	CI2	0.75	3.71	0.65	
	CI3	0.78	3.82	0.64	
	CI4	0.80	3.78	0.66	
	CI5	0.60	3.64	0.65	
	CI6	0.57	3.52	0.77	
Responsiveness to Customer	RC1	0.71	3.60	0.77	Cronbach's alpha @ 0.71 Construct reliability 0.83 AVE 0.63
	RC2	0.86	3.19	1.01	
	RC3	0.81	3.71	0.87	
Readiness to Face Changes	RFC1	0.94	3.51	0.88	Cronbach's alpha @ 0.95 Construct reliability 0.96 AVE 0.88 Item deleted (RFC5) low reliability
	RFC2	0.92	3.32	0.88	
	RFC3	0.95	3.39	0.89	
	RFC4	0.95	3.45	0.87	
	RFC5	0.22	3.27	0.65	
Valuing Skills and Human Resource Knowledge	VSHRK1	0.76	2.99	0.94	Cronbach's alpha @ 0.73 Construct reliability 0.83 AVE 0.56
	VSHRK2	0.70	3.79	0.69	
	VSHRK3	0.83	3.29	0.92	
	VSHRK4	0.70	3.47	0.83	
Establish Virtual Contribution	EVC1	0.28	3.30	0.84	Cronbach's alpha @ 0.73 Construct reliability 0.85
	EVC2	0.93	3.55	0.88	

	EVC3	0.78	3.42	0.84	AVE 0.67
	EVC4	0.71	3.64	0.69	Item deleted (EVC1) low reliability
Organizational innovations in business practices	OIBP1	0.71	3.59	0.79	Cronbach's alpha @ 0.70 Construct reliability 0.83 AVE 0.62
	OIBP2	0.77	3.04	0.89	
	OIBP3	0.89	3.48	0.85	
Innovations in workplace organization	IWO1	0.94	3.51	0.88	Cronbach's alpha @ 0.93 Construct reliability 0.95 AVE 0.88
	IWO2	0.93	3.32	0.88	
	IWO3	0.96	3.39	0.89	
New organizational methods in external relations	NOMER1	0.87	3.45	0.87	Cronbach's alpha @ 0.79 Construct reliability 0.88 AVE 0.71
	NOMER2	0.79	3.04	0.89	
	NOMER3	0.88	3.48	0.85	
Strategic Options	SO1	0.80	3.28	0.81	Cronbach's alpha @ 0.85 Construct reliability 0.88 AVE 0.50 Items deleted (SO3 & SO5) low reliability
	SO2	0.69	2.92	0.77	
	SO3	0.26	3.17	0.77	
	SO4	0.69	3.09	0.85	
	SO5	0.20	3.30	0.80	
	SO6	0.62	3.06	0.76	
	SO7	0.60	3.54	0.66	
	SO8	0.69	3.35	0.88	
	SO9	0.76	3.51	0.87	
	SO10	0.77	2.86	0.99	
Strategic Change	SC1	0.60	3.71	0.87	Cronbach's alpha @ 0.87 Construct reliability 0.89 AVE 0.50 Item deleted (SC6) low reliability
	SC2	0.66	2.99	0.94	
	SC3	0.60	3.79	0.69	
	SC4	0.81	3.29	0.92	
	SC5	0.66	3.47	0.83	
	SC6	0.23	3.40	0.79	
	SC7	0.81	3.55	0.88	
	SC8	0.68	3.42	0.84	
	SC9	0.67	3.64	0.69	
	SC10	0.84	3.31	0.79	

Table 4. Correlation matrix and divergent validity

Construct/Indicator	Organizational Agility	Competitive Intelligence	Strategic Flexibility	Organizational Innovation	Divergent Validity
Organizational Agility	1.00				0.85
Competitive Intelligence	0.83	1.00			0.79
Strategic Flexibility	0.94	0.81	1.00		0.94
Organizational Innovation	0.80	0.65	0.77	1.00	0.95

Table 5. Fitting Model Indexes

Construct	R ²	Communality	Q ²
organizational agility	0.91	0.72	0.63
competitive intelligence	0	0.63	*
strategic flexibility	0.66	0.89	0.58
organizational innovation	0.42	0.90	0.38
mean	0.66	0.78	*
$GOF = \sqrt[3]{Communality \times R^2} = \sqrt[3]{0.52} = 0.72$			

Table 6. Effect Size F^2

construct	F^2
CI - OI	0.72
CI - SF	1.94
OI - OA	0.12
SF - OA	2.23

Figure 2. Path coefficients

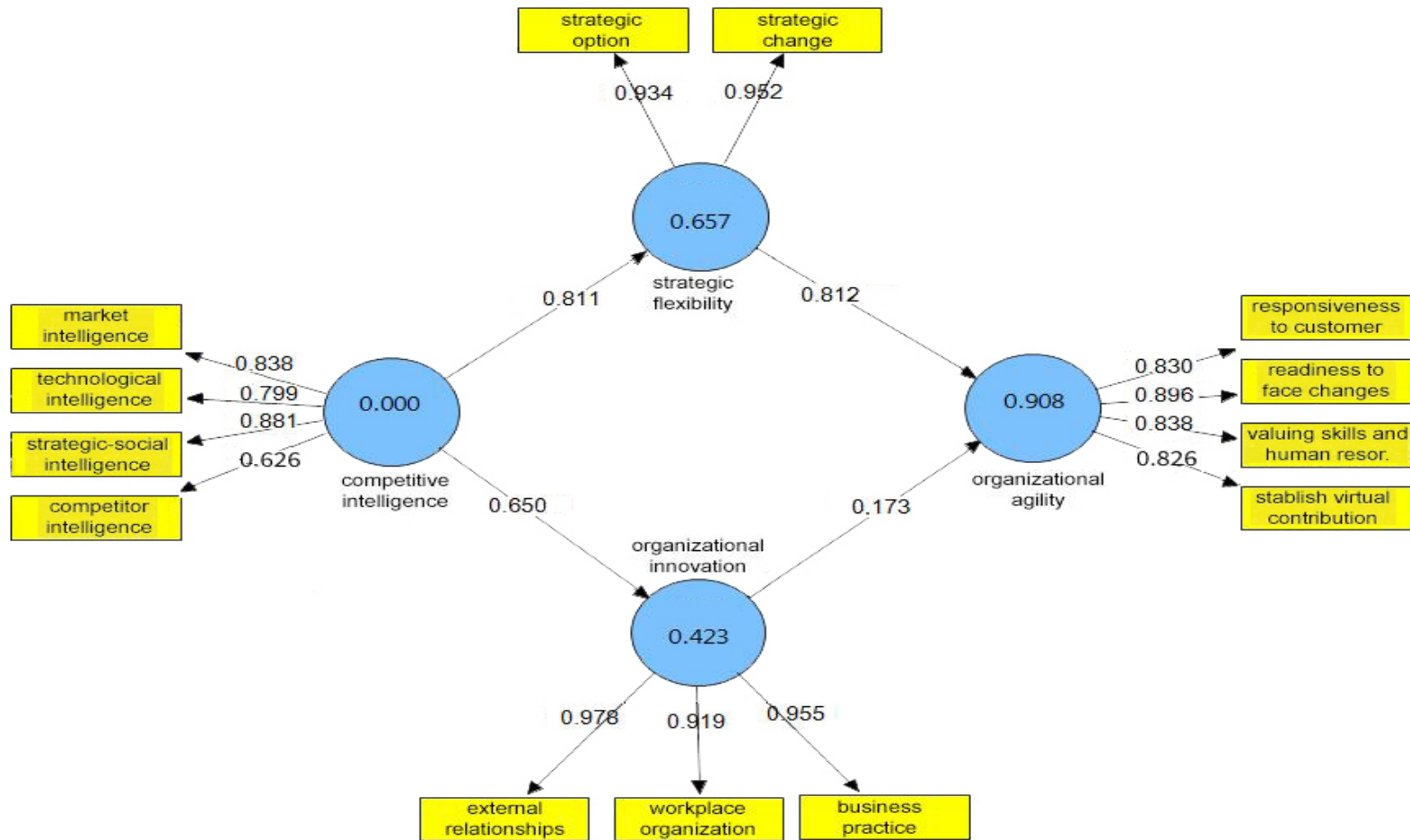


Figure 3. t values

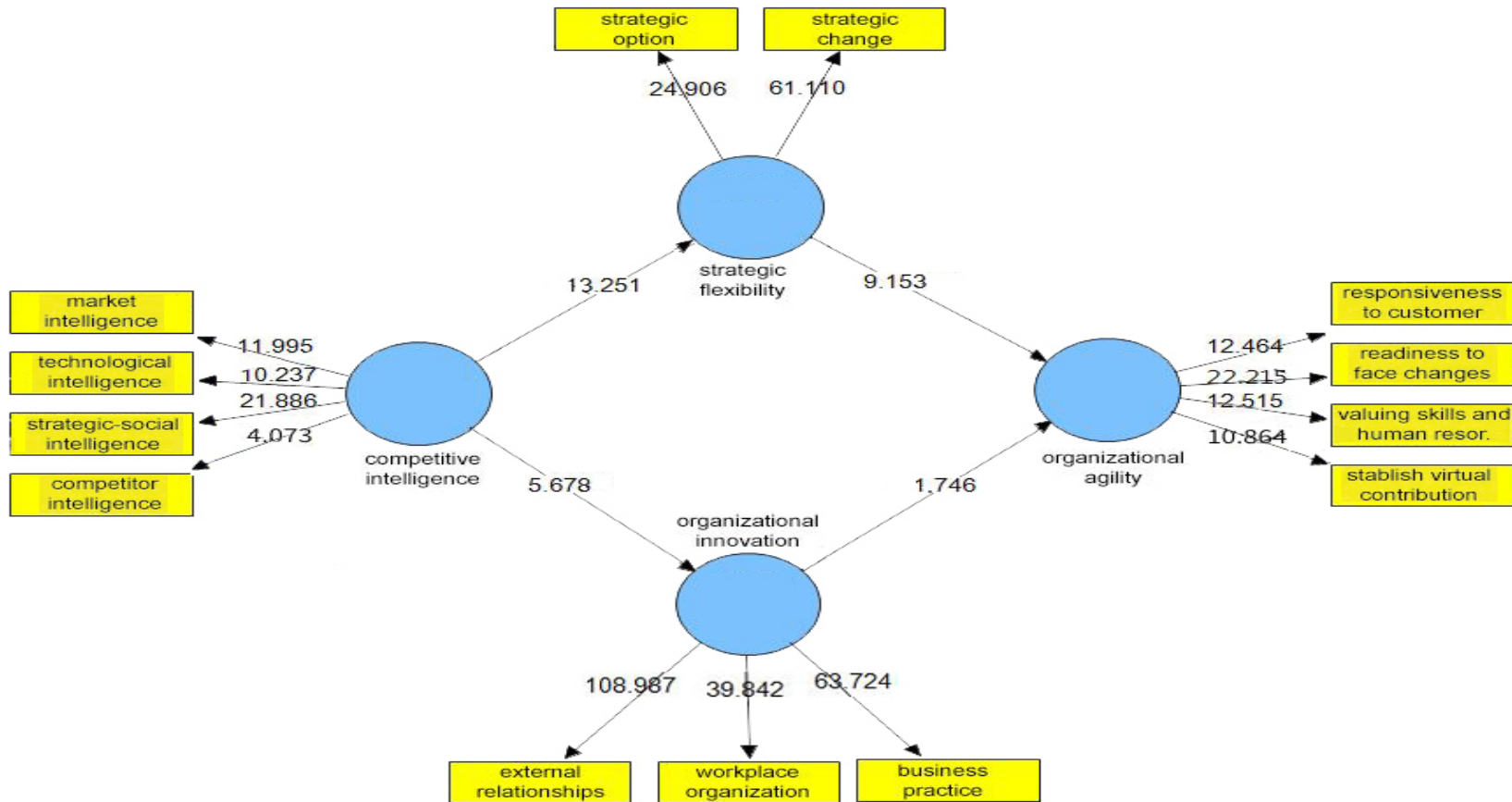


Table 7. Hypothesis test results

Hypothesis	Relationship	t	β	Result
H1	competitive intelligence (CI) ---> strategic flexibility (SF)	13.25	0.811	Supported
H2	strategic flexibility ---> organizational agility (OA)	9.15	0.812	Supported
H3	competitive intelligence ---> organizational innovation (OI)	5.68	0.650	Supported
H4	organizational innovation ---> organizational agility	1.75	0.173	Not- Supported
H5 a	Indirect effect of CI on OA through SF as mediator variable	...	$0.812 * 0.811 = 0.658$	Supported
H5 b	Indirect effect of CI on OA through OI as mediator variable	...	$0.650 * 0.173 = 0.112$	Not- Supported